

SECTION 02871 FLAGPOLES

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide flagpoles where shown on Drawing, as specified herein, and as needed for a complete and proper installation.

1.2 RELATED DOCUMENTS

- A. Drawings and general provisions of the contract, including General and Supplementary Conditions apply to this Section.

1.3 SUBMITTALS

- A. Submit shop drawings and test certifications for pipe for all products specified in this section in accordance with the requirements of General and Supplementary Conditions.

1.4 QUALITY ASSURANCE

- A. Provide each flagpole as a complete unit produced by a single manufacturer, including fittings, accessories, bases and anchorage devices.
- B. Provide flagpoles and installations constructed to withstand a 200 mph wind velocity unflagged, and a wind velocity of 120 mph when flying a flag of five feet by eight feet.
- C. Construct pole and ship to site in one piece.

1.5 DELIVERY, STORAGE AND HANDLING

- A. Spiral wrap flagpole with heavy Kraft paper or other protective wrapping, and prepare for shipment in hard fiber tubes or other protective container.
- B. Deliver flagpole and accessories completely identified for installation procedure. Handle carefully to avoid soiling or damage, and store flagpoles unwrapped to avoid staining from wrappings.

PART 2 - PRODUCTS

2.1 ACCEPTABLE MANUFACTURERS

- A. Subject to compliance with requirements, provide products of one of Concord Industries, Inc. (1-800-527-3902), or approved equal.

2.2 FLAGPOLE TYPE

- A. Aluminum flagpole shall be fabricated from seamless extruded tubing, complying with ASTM B 241, alloy 6063-T6, having a minimum wall thickness of .188 inches, tensile strength not less than 30,000psi and a yield point of 25,000psi. Heat-treat and age-harden flagpoles after fabrication.
 - 1. Provide three (3) – 30' height commercial groundset cone tapered aluminum poles with external halyard systems.

B. Description:

1. Exposed height: 30 feet (29 feet 6 inches)
2. Overall height: 33 feet
3. Butt diameter: 6 inches
4. Top diameter: 3.5 inches
5. Wall thickness: .188 inches
6. Flag size: 5 feet x 8 feet (Not in Contract)

2.3 FLAGPOLE MOUNTING

- A. Foundation Tube: Fabricated from 16 gage galvanized steel, with base plate whose square dimension is at least the inside diameter of the sleeve plus four inches. A setting plate six inches square shall be securely welded to the ground spike at least six inches below the base plate. The ground spike shall be $\frac{3}{4}$ inches in diameter, not less than 18 inches long.

1. Provide cast aluminum collar, Type FC-16, finish to match flagpole shaft. Diameter shall be at least one inch greater than diameter of sleeve.

2.4 SHAFT FINISH:

- A. Shaft shall have Satin Brush Finish.

2.5 FITTINGS

- A. Provide the following fittings:

1. Finial – 14 gage spun aluminum ball, gold anodized finish with flush seam, six inch diameter.
2. Truck – Cast aluminum revolving, non-fouling, complete with 26 stainless steel ball bearings, and two 2 $\frac{3}{8}$ inch diameter cast nylon sheaves.
3. Halyards – Two sets of #10 (5/16 inch) white waterproof polypropylene, each equipped with two chrome swivel-snaps to secure the flag.
4. Cleats – Two nine inch cast aluminum cleats, with stainless steel socket-head bolts included. Finish to match the shaft.

PART 3 - EXECUTION**3.1 INSTALLATION**

- A. Excavate for foundation concrete to neat clean lines in undisturbed soil. Provide forms where required due to unstable soil conditions. Remove wood, loose soil, rubbish and other foreign matter from excavation, and moisten earth before placing concrete.
- B. Provide concrete composed of portland cement, coarse aggregate, fine aggregate and water, mixed in proportions to attain 28-day compressive strength of not less than 3000 psi. Use not less than four sacks of portland cement, complying with ASTM C 150, per cubic yard of wet concrete. Place concrete immediately after mixing. Perform chuting to avoid segregation of mix. Compact concrete in place by use of vibrators to consolidate. Moisten-cure exposed concrete for not less than seven days, or use a non-staining curing compound in freezing weather. Provide positive slope for water runoff to base perimeter
- C. Install flagpole as indicated and in compliance with final shop drawings and manufacturer's instructions. Provide positive lightning ground for each flagpole installation. Paint portions of ground-set flagpole below grade with a heavy coat of bituminous paint.

END OF SECTION 02871